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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,336	09/16/2003	Dirk Weichholdt	09194-US	3781
30689	7590	12/06/2005	EXAMINER	
DEERE & COMPANY ONE JOHN DEERE PLACE MOLINE, IL 61265			ILAN, RUTH	
			ART UNIT	PAPER NUMBER
			3616	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/663,336

Applicant(s)

WEICHHOLDT, DIRK

Examiner

Ruth Ilan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/16/03, 2/20/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

2. The disclosure is objected to because of the following informalities: In paragraph [0017] line 2, "Figure 2" should be "Figure 3".

Appropriate correction is required.

### ***Drawings***

3. The drawings are objected to because In Figure 2, "48" points to an element. However, in the specification, "48" is described as an axis. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If

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the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2-4, 8-10 and 14-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Each of claims 2, 8, and 14 recite that the steering pin and the upper and lower arms define two mounting points. This language is confusing, because based on the drawings and the specification it appears that the two mounting points are defined by the upper and lower arms and it is not understood what is intended by the steering pin defining a mounting point.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4, 6-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurlburt et al. (US 6,267,198.) in view of Stracke et al. (DE 8902158) and Abbott/Hinerman (Suspension and Steering Glencoe Automotive Technology

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Series 2<sup>nd</sup> edition, pages 299-302 and 305/306) Hurlburt et al. teaches a rear steer axle on a combine (20) that includes a wheel (37) rotatably supported on a wheel carrier (35,43) that is supported on a pivot support that includes a yoke (42) with upper and lower arms (see Figure 3) that define two mounting points that are offset forward of the rotational axis of the rear wheels (see Figure 2 and abstract.) Regarding claims 7-10 and 12, Hurlburt et al. does not teach that the pivot axis is inclined toward the longitudinal central plane of the combine. Stracke et al. teaches (Figures 1 and 2) a steering axle with an offset pivot axis, similar to the steering axle disclosed by Hurlburt et al., and further teaches that the pivot axis (at 15) is inclined toward the longitudinal center line of the vehicle. Abbott/Hinerman (p 305, 306) teaches that an inclined steering angle is useful because it reduces the need for excessive caster and camber angles, distributes the weight of the vehicle more nearly under the road contact of the tire and provides for ease of steering. It would have been obvious to one having ordinary skill in the art at the time of the invention, in view of the teaching of Stracke et al. and Abbott/Hinerman to modify the steering axle of Hurlburt et al. to include an inwardly inclined pivot axis, in order to distribute the weight of the vehicle and provide for ease of steering. Regarding claims 1-4 and 6 Hurlburt et al. fails to teach positive caster, that is, as claimed, the pivot axis inclined rearward relative to the forward driving direction. Positive caster, as taught by Abbott/Hinerman, is a well known steering geometry technique that is used to ease steering by providing a geometry that helps to return the steered wheel to its straight ahead position (see p 300.) It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the

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pivot axis of Hurlburt et al. to include a pivot axis inclined rearward relative to the forward driving direction in order to provide positive caster and help ease steering.

8. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurlburt et al. (US 6,267,198.) in view of Stracke et al. (DE 8902158) and Abbott/Hinerman (Suspension and Steering Glencoe Automotive Technology Series 2<sup>nd</sup> edition, page 299-302, 305/306) as applied to claims 1 and 7 above, and further in view of Reilly (US 4,953,889.) Hurlburt et al. in view of Stracke et al. and Abbott/Hinerman is discussed above, and fails to teach that the angle of the rotational axis of the rear wheels is arranged so that upper side of the rear wheel is situated farther outward than the lower edge (positive camber.) Camber is a well known steered wheel alignment geometry concern that is used to prevent undue tire wear. Reilly teaches that it is known to tilt the steered wheels of vehicles outwardly (see Figure 3b) and that such a geometry is especially useful on steered wheels since much of the load of the vehicle is carried by the steered wheels (see col. 1, lines 5-30.) It would have been obvious to one having ordinary skill in the art at the time of the invention to include positive camber with the vehicle of Hurlburt et al. in view of Stracke et al. and Abbott/Hinerman, in view of the teaching of Reilly, in order to prevent undue tire wear, and ease of steering.

9. Claims 13-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurlburt et al. (US 6,267,198) in view of Abbott/Hinerman (Suspension and Steering Glencoe Automotive Technology Series 2<sup>nd</sup> edition, page 299-302.) Hurlburt et al. teaches a rear steer axle on a combine (20) that includes a wheel (37) rotatably supported on a wheel carrier (35,43) that is supported on a pivot support that includes a

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yoke (42) with upper and lower arms (see Figure 3) that define two mounting points that are offset forward of the rotational axis of the rear wheels (see Figure 2 and abstract.)

Hurlburt et al. fails to teach positive caster, that is, as claimed, the pivot axis inclined rearward relative to the forward driving direction. Positive caster, as taught by Abbott/Hinerman, is a well known steering geometry technique that is used to ease steering by providing a geometry that helps to return the steered wheel to its straight ahead position (see p 300.) It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the pivot axis of Hurlburt et al. to include a pivot axis inclined rearward relative to the forward driving direction in order to provide positive caster and help ease steering.

10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hurlburt et al. (US 6,267,198.) in view of Abbott/Hinerman (Suspension and Steering Glencoe Automotive Technology Series 2<sup>nd</sup> edition, page 299-302) as applied to claim 13 above, and further in view of Reilly (US 4,953,889.) Hurlburt et al. in view of Abbott/Hinerman is discussed above, and fails to teach that the angle of the rotational axis of the rear wheels is arranged so that upper side of the rear wheel is situated farther outward than the lower edge (positive camber.) Camber is a well known steered wheel alignment geometry concern that is used to prevent undue tire wear. Reilly teaches that it is known to tilt the steered wheels of vehicles outwardly (see Figure 3b) and that such a geometry is especially useful on steered wheels since much of the load of the vehicle is carried by the steered wheels (see col. 1, lines 5-30.) It would have been obvious to one having ordinary skill in the art at the time of the invention to include positive camber with the

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vehicle of Hurlburt et al. in view of Abbott/Hinerman, in view of the teaching of Reilly, in order to prevent undo tire wear, and ease of steering.

**Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hintz, Taute et al., Beach et al., Yungling, Kahle, Enomoto et al. teach steering geometries and axles of interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth Ilan whose telephone number is 571-272-6673. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RI  
11/30/05

Ruth Ilan  
Primary Examiner  
Art Unit 3616

